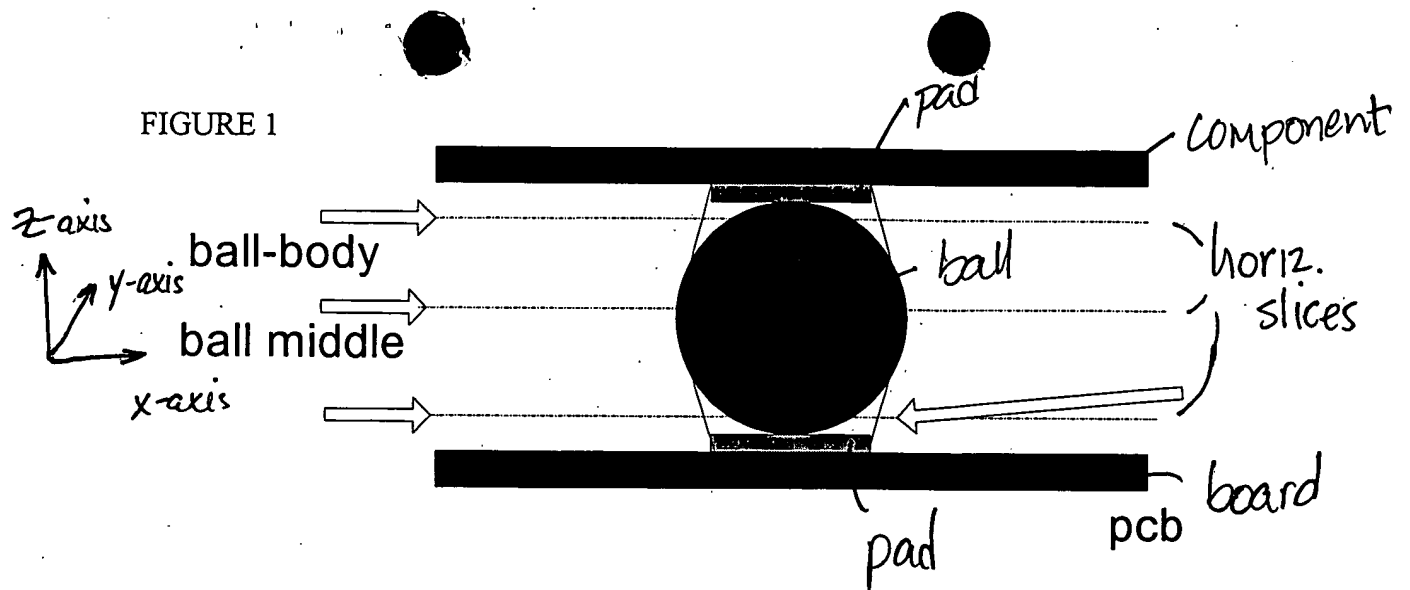


FIGURE 1

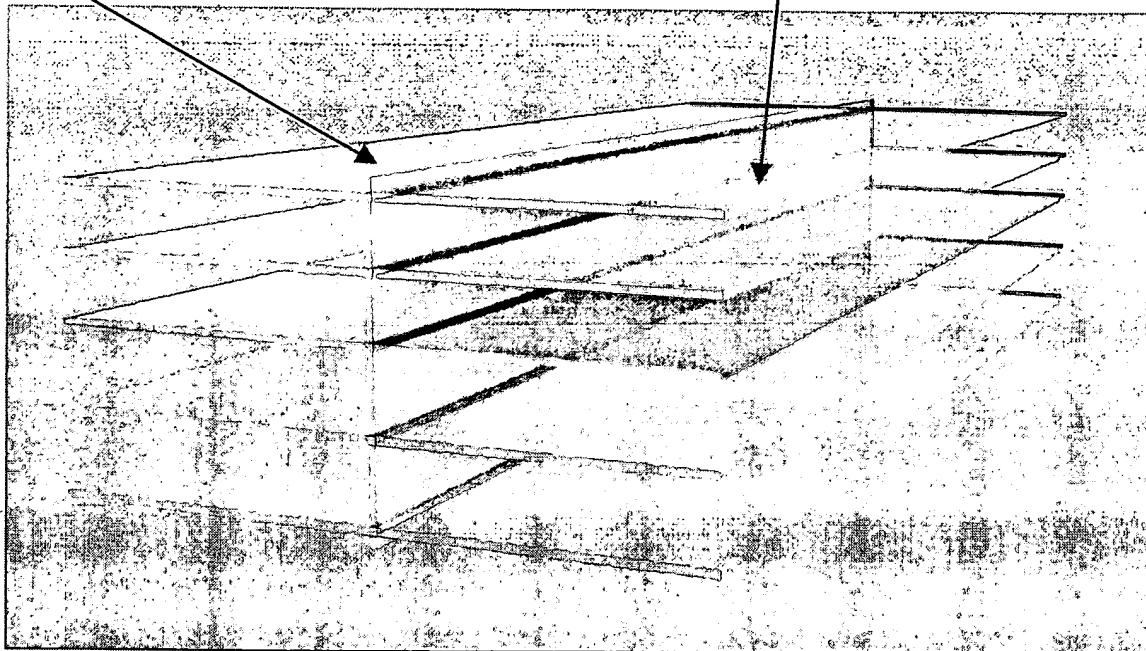


A bga ball showing the pad, ball and fillet

09707709-110700

Vertical Slice

Horizontal Slices



5

FIGURE 2

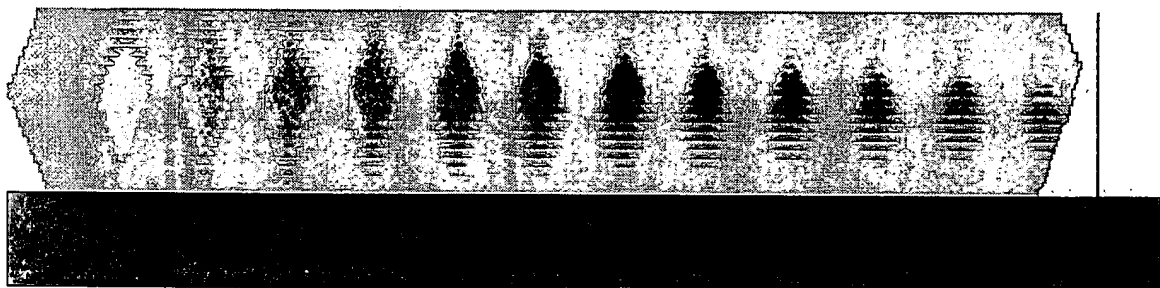
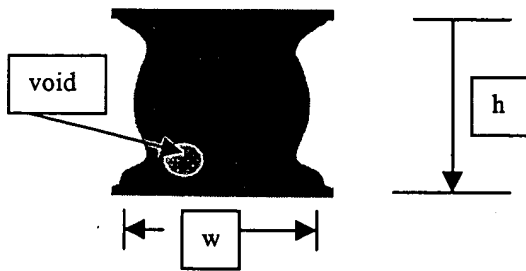


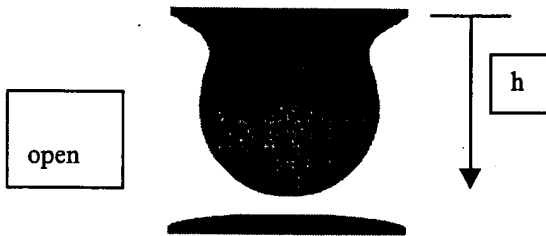
FIGURE 3

00/01/60/20/60

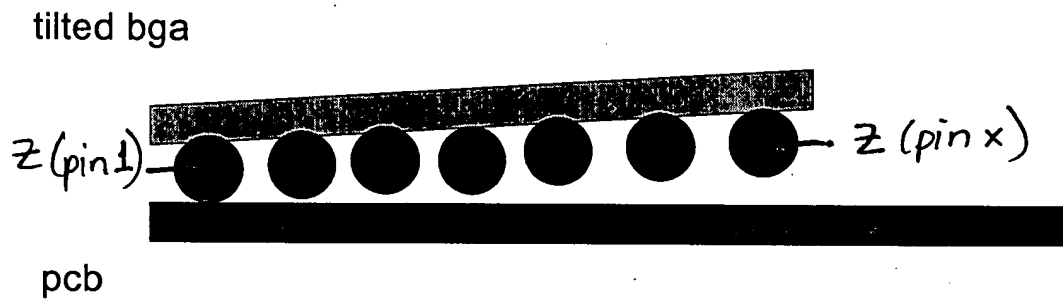
FIGURE 4



5

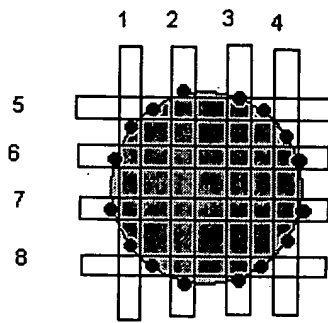


10 FIGURE 5



Tilted BGA example

FIGURE 6



0070709-110700

002011-60220260

START

ACQUIRE DATA CORRESPONDING TO
A NUMBER OF HORIZONTAL SLICE
IMAGES

DEFINE A VERTICAL REGION OF
INTEREST FROM THE DATA

CONSTRUCT A VERTICAL SLICE IMAGE
BASED UPON DATA FALLING WITHIN
THE VERTICAL REGION OF INTEREST

ANALYZE THE VERTICAL SLICE
IMAGE TO DETERMINE
WHETHER A DEFECT IS
PRESENT

END

Fig. 7

START

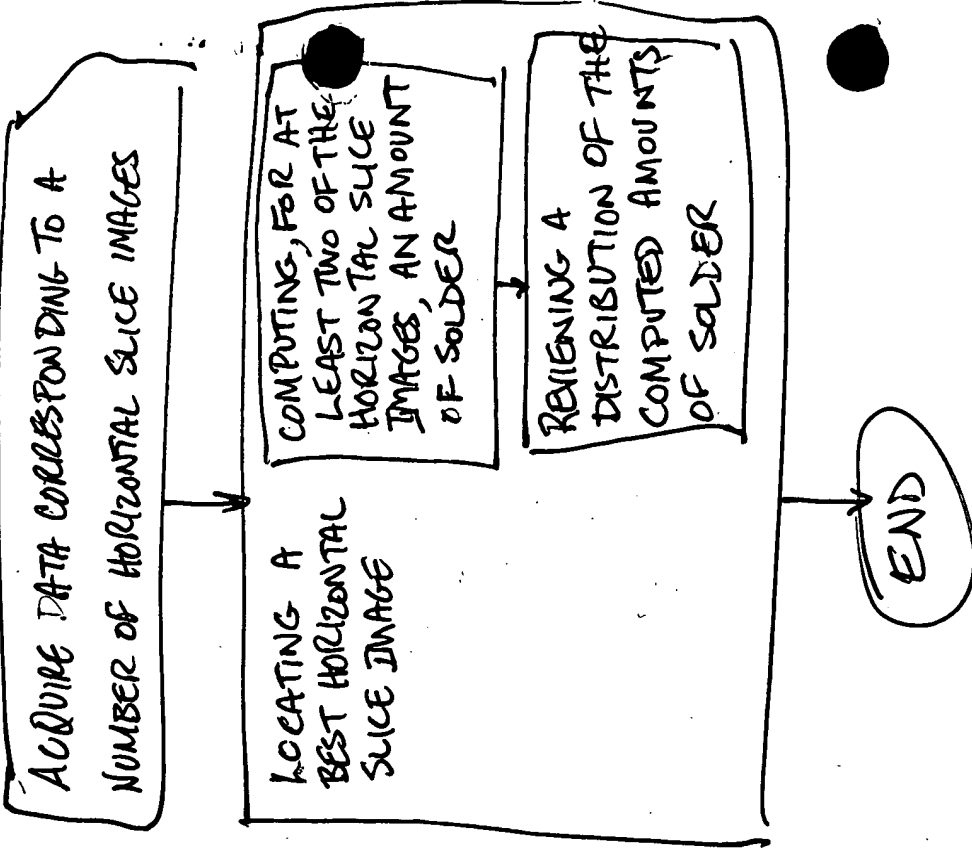


Fig. 8

002011-50/20260

START

FINDING A LOCATION OF
THE JOINT

IMPROVING THE LOCATION
BY APPLYING A FINE
LOCATOR

MEASURING A PLURALITY OF
DIAMETERS THROUGH THE IMPROVED
LOCATION AT A NUMBER OF
ANGLES

APPLYING A RULE THAT COMPARES
THE MEASURED DIAMETERS TO
AN EXPECTED DIAMETER

END

FIG. 9